

## AUTOMATED METHOD FOR ANALYZING AND COMPARING FINANCIAL DATA

### Technical Field

5       The present invention relates to the area of  
financial data analysis.

### Background Art

10       In order for companies to remain competitive,  
companies must always monitor their revenues, sales and  
costs and determine the basis for changes in these items  
from one period to another period. Companies generally  
maintain income statements which reflect the various  
sources of revenue in addition to the origins of various  
costs.

15       Generally, income statements are produced in a  
spreadsheet hard copy format in which corporate  
accountants must manually sift through the information  
to determine reasons for differences in revenue, costs  
or profit from one period to another period. However,  
this method of financial analysis is labor and time  
20       intensive and expensive to companies. Accordingly, a  
need has developed for an improved and automated method  
of analyzing financial data.

### Disclosure Of Invention

25       A principal object of the present invention is  
to provide a automated method of analyzing financial  
data.

It is another object of the present invention to provide a method of analyzing data through the evaluation of standardized financial variables.

It is yet another object of the present  
5 invention to provide variance calculations for different time dimensions or views.

In carrying out the above objects and other objects and features, an improved and automated method of analyzing data is provided. The method preferably  
10 but not necessarily includes the steps of: gathering data from at least one field in two different financial statements; applying a volume variance subroutine against the gathered data; applying a mix variance subroutine against the gathered data; applying a net  
15 revenue change variance subroutine against the gathered data; applying a cost change variance subroutine against the gathered data; applying an exchange variance subroutine against the gathered data; applying a one-time variance subroutine against the gathered data; and  
20 reporting the results of the volume variance subroutine, the mix variance subroutine, the net revenue change variance subroutine, the cost change variance subroutine, the exchange variance subroutine, and the one-time variance subroutine.

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#### Brief Description Of Drawings

Figure 1 is a flowchart which illustrates the method of the present invention;

Figure 2 is a flowchart which illustrates the volume variance subroutine.

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Figure 3 is a flowchart which illustrates the mix variance subroutine;

Figure 4 is a flowchart which illustrates the net revenue change variance subroutine;

Figure 5 is a flowchart which illustrates the cost change variance subroutine; and

5 Figure 6 is a flowchart which illustrates the exchange variance subroutine.

#### Best Mode For Carrying Out The Invention

With reference to Figure 1, the method of the present invention is illustrated. As shown, the method of the present invention includes several steps which preferably but not necessarily may occur in the following order. First, data must be gathered 10 from at least one field in two different financial statements. The field in the financial statement 15 includes financial information relating to a first period or view and a second period or view. When the a view is used in lieu of a period, the same period may be analyzed and compared based upon different factors such as comparing the same time period under two different 20 forecasts.

The financial statement is preferably an income statement which identifies several components of a financial system. The field or fields in the financial statement may include but is not limited to 25 information such as product sales to dealers, marketing incentives, material costs, other costs and the like. The data in each field may be defined not only by the field itself but by a pre-determined time period such as a month, quarter, or year. Upon obtaining the data from 30 each field, at least one subroutine 14 18 22 26 30 34 is applied against the data. In some cases, the system

determines 12 16 20 24 28 32 whether the subroutine  
applies to a particular field in the financial  
statement. For example, the exchange subroutine might  
not be applied against a field relating to payroll in  
5 the event that there is no correlation between exchange  
rates and the payroll costs.

The subroutine or subroutines applied against  
the data are based upon causal factors which  
historically affect changes in revenue, costs or  
10 profits. For example, the present invention preferably  
involves six causal factors: (1) volume factor; (2) mix  
factor; (3) net revenue change factor; (4) cost change  
factor; (5) exchange factor; and (6) one-time factor.  
The six preferable factors are generally the basis for  
15 explaining changes in revenue, costs or profit.

The volume factor affects revenue and/or cost  
as product volume or number of products manufactured  
and/or sold changes. The mix factor affects revenue  
and/or cost as the sales of an upgraded version of a  
20 product in a series changes relative to a downgraded  
version. The net revenue change factor affects revenue  
as prices or marketing incentives change. The cost  
change factor illustrates how product program changes,  
ongoing product development changes, non-design changes  
25 or sourcing may affect cost. Finally, the exchange  
factor may affect revenue or cost as the exchange rate  
between two different currencies changes.

As shown in Figure 2, the volume factor  
subroutine is further illustrated in a flowchart format.  
30 The volume factor subroutine compares the data from the  
first period or view and the second period or view and  
identifies the revenue and cost differences due to  
differences in product volumes, measured at consistent

price and exchange rate. The subroutine preferably applies the formula of  $(V2-V1) * P1 = VV$ . V1 is the total volume of products sold in period 1, and V2 is the total volume of products sold in period 2. P1 is the average product price or cost from period 1 and VV is the volume variance or the revenue/cost difference due to a change in product volumes. The volume factor subroutine further breaks down the data according to several sub-components: total industry, market share, mix among product lines, and dealer stock levels. The volume factor subroutine begins by retrieving 38 the aggregated extended revenue or costs for products in a first period and in a second period. The first period or view and the second period or view may be of any comparable length such as a quarter or a year. Second, the system retrieves 40 data such as the total number of products sold during the first period and the total number of products sold during the second period. Third, difference between the number of products sold in the first period and the second period is calculated 42. Fourth, the system computes 44 the average price or cost of the product-at-issue during the first period and during the second period. Fifth, the average price or cost during the first period is multiplied 46 by the difference in number of products sold between the first period and the second period. The resulting product is the volume variance which reflects the revenue and cost differences due to a change in product volume.

Referring now to Figure 3, the mix variance subroutine is further illustrated in a flowchart format. The mix variance subroutine determines the revenue and cost differences between the first period and the second period due to differences in the configuration mix









financial statement line item in the local currency.  
The local currency is the revenue or the amount denoted  
in the currency of a country in which financial activity  
occurs. XR1 is the exchange rate between the two  
5 currencies from the first period. The subroutine  
includes several steps. First, the system retrieves 78  
the revenue or cost stated in the local currency and in  
the desired currency for the first period and the second  
period. Second, the system gathers 80 the exchange rate  
10 between the local currency and the desired currency for  
the first period and for the second period. Third, the  
system calculates the difference between the financial  
amounts of the first period and the second period with  
respect to the local currency 82 then, fourth, with  
15 respect to the desired currency 84. Fifth, the change  
in the local is multiplied 86 by the exchange rate of  
the first period resulting in a preliminary variance  
amount. Sixth, the preliminary variance amount is  
deducted 88 from the previously determined difference  
20 between the first period and the second period stated in  
the desired currency. The resulting difference is the  
exchange variance which reflects the revenue and cost  
differences due to a change in exchange rates.

With respect to the one-time factor  
25 subroutine, this subroutine may be modified according to  
the particular circumstances during the specified time  
periods. This subroutine determines the variance in  
revenue or cost for unusual or infrequent items such as  
a plant shutdown or employee separation programs. The  
30 unique parameters of the unusual circumstance are  
accounted in determining changes in revenue or cost from  
a first period to a second period.

The words in the specification are words of description rather than limitation, and it is understood that various changes may be made without departing from the spirit and scope of the invention.

5           While the best mode for carrying out the invention has been described in detail, those familiar with the art to which this invention relates will recognize various alternative designs and embodiments for practicing the invention as defined by the following  
10       claims.

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